

What is claimed is:

1. A three-side trimmer comprising:

an alignment station for receiving a booklet bundle composed of stacked booklets and adjusting the booklets in the height direction;

an alignment means arranged in the alignment station for aligning the top edge and/or bottom edge of the booklets along with the fore edge of the booklets;

a cutting station for cutting the top edge, bottom edge and fore edge of the booklet bundle;

a chuck mechanism for holding the booklet bundle in the vertical direction, and conveying the booklet bundle from the alignment station to the cutting station;

a cutting table arranged in the cutting station for supporting the booklet bundle thereon;

a top edge cutting knife arranged in the cutting station for upwardly and downwardly movement so as to cut the bottom edge of the booklet bundle;

a bottom edge cutting knife arranged in the cutting station in parallel to the top edge cutting knife for upwardly and downwardly movement so as to cut the bottom edge of the booklet bundle;

a fore edge cutting knife arranged in the cutting station in perpendicular to the top edge cutting knife and the bottom edge cutting knife for upwardly and downwardly movement so as to cut the fore edge of the booklet bundle;

a pressing plate arranged in the cutting station for upwardly and downwardly movement between a waiting position, which is positioned over the booklet bundle, and a working

position where the pressing plate presses the booklet bundle to the cutting table;

a driving mechanism for upwardly and downwardly moving the pressing plate;

a measuring means for measuring the height of the booklet bundle while the chuck mechanism holds the booklet bundle; and

control means for controlling the driving mechanism according to the value measured by the measuring means in such a manner that the waiting position of the pressing plate to a height level is adjusted corresponding to the height of the booklet bundle and the pressing plate upwardly and downwardly moves between the adjusted waiting position and the working position.

2. The three-side trimmer according to claim 1 further comprising:

a receiving station for receiving a booklet bundle;

a conveying means for holding the booklet bundle in the vertical direction and conveying the booklet bundle from the receiving station to the alignment station; and

a second measuring means for measuring height of the booklet bundle while the conveying means holds the booklet bundle;

the chuck mechanism comprising;

a fixed block for supporting the bottom surface of the booklet bundle;

a moving block upwardly and downwardly movable with respect to the fixed block; and

a second driving means for driving the moving block to move between the waiting position, which is positioned over the

booklet bundle, and a working position where the moving block pinches the booklet bundle in cooperation with the fixed block;

the control means controlling the second driving mechanism in response to the measured value by the second measuring means in such a manner that the waiting position of the moving block in the chuck mechanism is adjusted corresponding to the height level of the booklet bundle and the moving block upwardly and downwardly moves between the adjusted waiting position and the working position.

3. The three-side trimmer according to claim 1 further comprising:

an air evacuating means arranged in the receiving station for evacuating air existing between the booklets; and

a conveying means for conveying the booklet bundle from receiving station to the alignment station;

the air evacuating means comprising a supporting plate for supporting the bottom surface of the booklet bundle, and a pressing plate upwardly and downwardly movable with respect to the supporting plate so as to press the booklets to the supporting plate;

a second measuring means for measuring the height of the booklet bundle while the pressing plate in the air evacuating means presses the booklet bundle to the supporting plate;

the chuck mechanism comprising a fixed block for supporting the bottom surface of the booklet bundle, a moving block upwardly and downwardly movable with respect to the fixed block, and a second driving means for moving the moving block between the waiting position, which is position over the booklet bundle,

and a working position where the moving block pinches the booklet bundle in cooperation with the fixed block;

the control means controlling the second driving means in response to the measured value by the second measuring means in such a manner that the waiting position of the moving block in the chuck mechanism is adjusted corresponding to the height level of the booklet bundle and the moving block upwardly and downwardly moves between the adjusted waiting position and the working position.

4. The three-side trimmer of claim 1 wherein the number of the booklets to be cut is counted according to the measured value by the measuring means or the second measuring means along with the thickness of a booklet in a booklet bundle.

5. A three-side trimmer comprising:
a receiving station for receiving a booklet bundle,
an alignment station for aligning the booklets in the booklet bundle in the height direction;
an alignment means arranged in the alignment station for aligning the top edge and/or bottom edge of the booklets along with the fore edge of the booklets;
a conveying means for holding the booklet bundle in the vertical direction and conveying the booklet bundle from the receiving station to the alignment station;
a cutting station for cutting the top edge, bottom edge and fore edge of the booklet bundle;
a chuck mechanism for holding the booklet bundle in the vertical direction and conveying the booklet bundle from the alignment station to the cutting station;

a cutting table arranged in the cutting station for supporting the booklet bundle thereon;

a top edge cutting knife arranged in the cutting station for upwardly and downwardly movement so as to cut the top edge of the booklet bundle;

a bottom edge cutting knife arranged in the cutting station in parallel to the top edge cutting knife for upwardly and downwardly movement so as to cut the bottom edge of the booklet bundle;

a fore edge cutting knife arranged in the cutting station in perpendicular edge and/or bottom edge of the booklets along with the fore edge of the booklets;

to the top edge cutting knife and the bottom edge cutting knife for upwardly and downwardly movement so as to cut the fore edge of the booklet bundle;

a pressing plate arranged in the cutting station for upwardly and downwardly movement between a waiting position, which is positioned over the booklet bundle, and a working position where the pressing plate presses the booklet bundle to the cutting table;

a driving mechanism for upwardly and downwardly moving the pressing plate;

a measuring means for measuring the height of the booklet bundle while the chuck mechanism holds the booklet bundle; and

control means for controlling the driving mechanism in response to the value measured by the measuring means in such a manner that the waiting position of the pressing plate is adjusted to a height level corresponding to the height of the booklet bundle and the pressing plate upwardly and downwardly

moves between the adjusted waiting position and the working position.

6. The three-side trimmer of claim 5 wherein the number of the booklets to be cut is counted according to the measured value by the measuring means or the second measuring means along with the thickness of a booklet in a booklet bundle.

7. A three-side trimmer comprising:

a receiving station for receiving a booklet bundle;

an air evacuating means arranged in the receiving station for evacuating air existing between the booklets, the air evacuating means comprising a supporting plate for supporting the bottom surface of the booklet bundle, and a pressing plate upwardly and downwardly movable with respect to the supporting plate so as to press the booklets to the supporting plate;

an alignment station for aligning the booklets in the booklet bundle in the height direction;

an alignment means arranged in the alignment station for aligning the top edge and/or bottom edge of the booklets along with the fore edge of the booklets;

a conveying means for holding the booklet bundle in the vertical direction and conveying the booklet bundle from the receiving station to the alignment station;

a cutting station for cutting the top edge, bottom edge and fore edge of the booklet bundle;

a chuck mechanism for holding the booklet bundle in the vertical direction, and conveying the booklet bundle from the alignment station to the cutting station;

a cutting table arranged in the cutting station for supporting the booklet bundle thereon;

a top edge cutting knife arranged in the cutting station for upwardly and downwardly movement so as to cut the top edge of the booklet bundle;

a bottom edge cutting knife arranged in the cutting station in parallel to the top edge cutting knife for upwardly and downwardly movement so as to cut the bottom edge of the booklet bundle;

a fore edge cutting knife arranged in the cutting station in perpendicular to the top edge cutting knife and the bottom edge cutting knife for upwardly and downwardly movement so as to cut the fore edge of the booklet bundle;

a pressing plate arranged in the cutting station for upwardly and downwardly movement between a waiting position, which is positioned over the booklet bundle, and a working position where the pressing plate presses the booklet bundle to the cutting table;

a driving mechanism for moving the pressing plate up and down;

a measuring means for measuring the height of the booklet bundle while the pressing plate in the air evacuating means presses the booklet bundle to the supporting plate; and

a control means for controlling the driving means in response to the measured value by the measuring means in such a manner that the waiting position of the moving block in the chuck mechanism is adjusted corresponding to the height level of the booklet bundle and the moving block upwardly and downwardly moves between the adjusted waiting position and the working position.

8. The three-side trimmer of claim 7 wherein the number of the booklets to be cut is counted according to the measured value by the measuring means or the second measuring means along with the thickness of a booklet in a booklet bundle.

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